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CATERPILLAR INC.
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PATENT DEPT.
PEORIA, IL 616296490

EXAMINER

HARTMAN JR, RONALD D

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/628,155
Filing Date: July 28, 2003
Appellant(s): CLARK ET AL.

MAILED

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Technology Center 2100

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on November 14, 2006.

(1) Real Party in Interest

Caterpillar Inc. is the real party in interest.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

I. Claims 1, 7-9, and 12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,240,328 to LaLonde et al. ("LaLonde").

II. Claims 2, 6, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over LaLonde in view of Official Notice.

III. Claims 3 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over LaLonde in view of U.S. Patent No. 5,341,304 to Sakamoto et al. ("Sakamoto").

IV. Claims 4, 10, 11, and 13-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over LaLonde in view of U.S. Patent No. 6,477,437 to Hirota ("Hirota").

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims, and the rejections have also been reiterated below:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 7-9 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by LaLonde et al., U.S. Patent No. 6,240,328.

As per claims 1 and 7, LaLonde et al. teaches a computer-implemented method for displaying a changed manufacturing instruction comprising the steps of:

- establishing a desired fluid change associated with a manufacturing characteristic (e.g. interpreted to be the functional equivalent of changing any, *meaning possibly more than one*, manufacturing characteristic of any, *meaning possibly more than one*, product; Abstract; Figure 1; C2 L31-42; C2 L53-61);
- enabling a change in a manufacturing instruction in response to the desired fluid change (e.g. interpreted to be the functional equivalent of the "establishing" step, from above, since this limitation appears to essentially be claiming the same features, that is to determine and implement a change in a manufacturing characteristic with regards to a manufacturing component of any product; Abstract; Figure 1; C2 L31-42; C2 L53-61); and
- displaying the changed manufacturing instruction associated with a manufacturing component on a display screen associated with a first manufacturing workstation (e.g. Interpreted to correspond to displaying the "established" and "enabled" changed instruction on any workstation which is associated with the manufacturing process; C2 L53-61; Figure 1).

As per claim 8, LaLonde et al. teaches pulling changed instructions from a repository (e.g. Figure 2 element 20).

As per claim 9, the rejection of claim 1 is applied equally herein.

Furthermore, LaLonde et al. further teaches a time-based event being responsible for the displaying of a changed manufacturing instruction (e.g. "in response to a unique configuration being ordered"; C9 L15-20", wherein the actual order would be a "time based event" which would be responsible for the displaying of a changed manufacturing instruction.

As per claim 12, the rejection of claim 1 is applied equally herein.

Furthermore, LaLonde et al. further teaches a computer controller and a plurality of workstations with respective displays (e.g. Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over LaLonde et al., as applied to claim 1 above, in view of Official Notice.

As per claim 2, LaLonde does not specifically teach stopping a manufacturing line if a changed manufacturing instruction is not performed. However, Official Notice is taken with respect to this feature. That is, since it is blatantly obvious, from a manufacturing standpoint, that if a desired manufacturing change is not actually performed, then the product being manufactured will not be the product that is desired. Therefore, it stands to reason that in order to avoid the manufacturing line from continuously performing manufacturing operations that are no longer desired, the movement of products along the manufacturing line, or the actual manufacturing line itself, would obviously be suspended so as to avoid producing the wrong product, and this would have been obvious to one of ordinary skill in the art at the time the invention was made.

As per claim 6, LaLonde does not specifically teach ordering components in response to the changed manufacturing instruction. However, Official Notice is taken with regards to such feature. That is, since it would be impossible for the dynamic assembly line to implement the instructions if the parts (i.e. components) were not

available, it stands to reason that the parts would either be immediately available or they would not be. If the parts were not available, wouldn't they need to be ordered first? This seems obvious enough and reads on the "ordering" feature of this claim. However, in addition, it also seems obvious to re-order parts which are currently being utilized, and therefore a feature wherein a reordering step occurs is yet another feature that the Examiner would hold Official Notice over since obviously you would not want to run out parts (i.e. components) and therefore a manufacturer would need to order replacement parts since current supply levels are limited by nature. It is both these concepts that the Examiner takes Official Notice, that is, ordering parts after a change and reordering parts which are being used during actual production, both being well known features in the generic art of manufacturing control systems and both of which would have been obvious to one of ordinary skill in the art at the time the invention was made.

As per claim 19, Official Notice is taken with respect to a feature, used in manufacturing, wherein an old part (i.e. component) is used up before utilizing a new part (i.e. component) during manufacturing of a product. This is a well known method for optimizing the use of available resources, since it produces less waste than by simply switching from one part to another by exhausting the supply of the old parts before using new ones, and this well known methodology would have been obvious at the time the invention was made in order to optimize the manufacturing of the desired products.

Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LaLonde et al., in view of Sakamoto et al., U.S. Patent No. 5,341,304.

As per claim 18, the rejection of claims 1, 9 and 12 are applied equally herein. Furthermore, as per claims 3 and 18, LaLonde does not specifically teach changing the instruction, for a second workstation, on a second display if the change is not performed by a first workstation.

Sakamoto teaches this feature for use in an assembly line (e.g. See claim 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Sakamoto into the system disclosed by LaLonde for the purpose of making sure that products are produced in accordance with the necessary changes, thereby producing a more reliable and efficient assembly of a manufactured product, and this would have been obvious to one of ordinary skill in the art at the time the invention was made.

Claims 4, 10-11 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over LaLonde et al., in view of Hirota, U.S. Patent No. 6,477,437.

As per claims 4, 10 and 11, LaLonde et al. does not specifically teach highlighting a location of a component associated with a changed manufacturing instruction (claim 4), emphasizing the changed manufacturing instruction in response to an event (claim 10) nor stopping the emphasis in response to a second event (claim 11).

Furthermore, as per claim 13, what does time based event mean specifically? Are not all events time based? Essentially, claim 13 appears to equate to "the event is a time determined in advance". This claim has been interpreted to add a feature to claim 1 wherein the displaying of the changed manufacturing instruction, on the workstation display, *occurs in response to a time based event*, the time based event being representative of a time, the time being determined in advance. This feature is not specifically taught by LaLonde et al.

Furthermore, as per claims 14-17, LaLonde et al does not specifically teach identifying an operator and displaying the changed manufacturing instruction in response to the operator identification (claim 14), identifying a characteristics of the operator (claim 15), displaying the changed manufacturing instruction in response to the identified operator characteristic (claim 16) nor the operator characteristics being whether the operator is new to the workstation or whether the operator needs help (claim 17).

Hirota teaches all of the aforementioned features which LaLonde lacks. That is, Hirota teaches highlighting a location of a component associated with a changed manufacturing instruction (claim 4)(e.g. C16 L32-39), emphasizing the changed manufacturing instruction in response to an event (claim 10)(e.g. C16 L32-39), stopping the emphasis in response to a second event (claim 11)(e.g. completion of a step; C18 L56-60), displaying of the changed manufacturing instruction, on the workstation display, occurs in response to a time based event, the time based event being representative of a time, the time being determined in advance (claim 13)(e.g. C22 L9-16), identifying an operator and displaying the changed manufacturing instruction in response to the operator identification (claim 14)(e.g. C22 L9-53 and C24 L47-58), identifying a characteristics of the operator (claim 15)(e.g. C22 L9-53 and C24 L47-58), displaying the changed manufacturing instruction in response to the identified operator characteristic (claim 16) (e.g. C22 L9-53 and C24 L47-58) and the operator characteristics being whether the operator is new to the workstation or whether the operator needs help (claim 17)(e.g. C22 L9-53 and C24 L47-58).

It would have been obvious to one of ordinary skill in the art to incorporate the teachings of Hirota into the system disclosed by LaLonde for the purpose of providing an assembly line control system which can interactively communicate with an operator so that the instructions, for each step in the manufacturing process, can be displayed and demonstrated and so that system can provide interactive help or aid to the operator, based on the needs or characteristics of the operator, in order to form a more efficient means of displaying changed manufacturing instructions to an assembly line operator, in order to aid the individual worker and to monitor the individual workers proficiency, and this would have been obvious to one of ordinary skill in the art at the time the invention was made.

(10) Response to Arguments

The applicant has presented two specific arguments:

(1) The first argument is that LaLonde et al. does not disclose a "fluid change", as specifically defined by the applicant. The applicant has stated that a "fluid change" (on page on the Appeal Brief) is meant to include "a change without the need to halt the operation of an assembly line." Applicant refers to the specification at page 4, II. 1-2, for support. The applicant then goes on the say, "That is, Appellants have acted as their own lexicographer and have provided a definite definition for the term "fluid change." See Markman v. Westview Instruments, Inc., 52 F.3d 967,980, 34 USPQ2d 1321 (Fed. Cir. 1995) (en banc), aff'd 517 U.S. 370, 38 USPQ2d 1461 (1996).

In response to this, the Examiner would like to point out that although the Applicant's chosen definition for "fluid change" is meant to include "a change without the need to halt the operation of an assembly line.", it is not limited to just this interpretation alone. The specification, on page 4, provides that "A fluid change includes a change without the need to halt the operation of an assembly line. A fluid change may be a change made easily, a change made smooth and effortlessly, an immediate change, a dynamic change, a real-time change, a change that occurs in response to an event, and/or a change with a slight delay (e.g. an engineer in his office changes a manufacturing instruction and the change is conveyed by at least one of, real-time, immediately and/or with a slight delay to the computer terminals and display screens on the manufacturing shop floors)." It would appear that the applicant has concentrated on only a part of the disclosure, with respect to how "fluid change" may be interpreted, but the specification does not specifically define this term to mean only "a change without the need to halt the operation of an assembly line." It has been the Examiners position all the while, that *any* change, based on the applicants own disclosure, may be interpreted to correspond to the applicants claimed "fluid change", especially in light of the full definition recited above.

In summary, when the applicant presents a term (e.g. XYZ), and then defines that term as including definitions A, B, C or D; it is improper for the applicant to then

assert that the definition is limited to only definition A. This is simply not the case, as the definition may be defined as either A, B, C or D, since this is precisely what the applicant has described as encompassing the scope of the definition for XYZ.

Therefore, once again, the Examiner respectfully disagrees with the Applicant that the definition of "fluid change" is strictly limited to "a change without the need to halt the operation of an assembly line." as the "fluid change" may be any change that is initiated in response to any event, as defined by the applicant in the underlined passages above. Clearly, LaLonde et al. teaches this feature since LaLonde et al. is directed towards changing manufacturing instructions based on a change in the design of a manufactured product.

(2) The second argument is that Sakamoto et al., with respect to the outstanding rejection of claim 18, does not specifically teach, "changing the instruction, for a second workstation, on a second display if the change is not performed by a first workstation".

It is first noted that it does not appear the applicant has actually presented an argument, per se, but rather a general denial of the Examiners characterization of Sakamoto et al. However, with that being said, the Examiner believes that indeed Sakamoto et al. teaches this feature. That is, Sakamoto et al. teaches parallel manufacturing lines, wherein when a defect is encountered (e.g. a manufacturing step that was not done correctly, if at all), the overall product is moved to a second workstation, with applicable display, wherein an instruction instructs a worker how to rectify the problem (e.g. C5 L28-51, C11 L15-42, C13 L61 – C14 L9 and C18 L27-64).

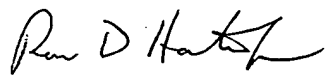
These citations and the system represented by Sakamoto et al. as a whole are believed to adequately anticipate "changing the instruction, for a second workstation, on a second display if the change is not performed by a first workstation".

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

 2/12/2007
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